

broader and more rounded sheath. The lancets of the two species are similar except for the teeth of the annuli which are larger and fewer in number in *matthewsi*.

The specimens were collected in a Malaise trap, and the host is not known; however, judging from the structure of the lancet, the habits of *matthewsi* may be similar to those of *acericaulis*. Both species of this genus were collected in the same locality.

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A NEW MICROVELIA FROM THE GALÁPAGOS
 (HEMIPTERA: VELIIDAE)¹

JOHN T. POLHEMUS, 3115 S. York, Englewood, Colorado 80110

The following paper is based on the material collected by members of the Galápagos International Scientific Project, 1964.² This material, exclusive of types, has been divided among the following individuals and institutions: California Academy of Sciences, R. L. Usinger, P. D. Ashlock, U. S. National Museum, B. P. Bishop Museum and J. T. Polhemus.

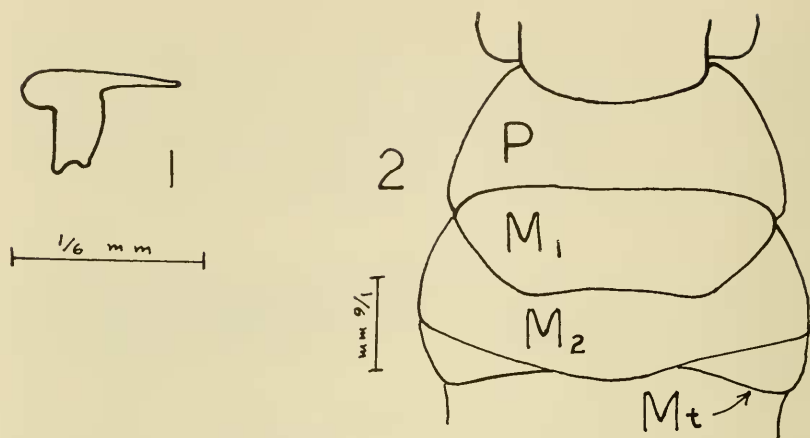
Up to this time, no Veliidae have been recorded from the Galápagos, and only one species is represented in the material at hand.

***Microvelia ashlocki*, n. sp.**

APTEROUS MALE: Moderately long, slender, dark, ground color of dorsum blackish brown; broad area between eye and median dark stripe on vertex of head, broad stripe as wide as head on pronotum, broad median areas on both lobes of mesonotum and first 3 abdominal segments velvety red brown; tergites 2 and 3 gray-blue pruinose externally; broad median areas of tergites 4, 5, 6, and 7 glabrous yellow brown; connexivum yellowish to red brown along tergite 1, faintly so basally along tergites 2 and 3; ventral surface orange brown, dull, broadly striped along the sides with blackish-bluish pruinose; covered with fine pubescence and scattered semi-short hairs, genital segments more longly hairy. Head convex above, with distinct median furrow, greyish pruinose near the eyes; width across eyes 0.45 mm. Rostrum testaceous, becoming black-fuscous apically, reaching to anterior one-fourth of mesosternum. Antennae long, slender,

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Figs. 1 and 2, *Microvelia ashlocki*, n. sp.: 1, left ♂ paramere; 2, thorax, dorsal view, apterous ♂. Abbreviations: P, pronotum; M₁, mesonotum lobe 1; M₂, mesonotum lobe 2; Mt, metanotum.

brownish fuscous apically, basal fourth of segment 1 testaceous, shortly pilose with scattered longer hairs; length of antennal segments I-IV, 14:11:19:20 (60 units = 1 mm). Legs moderately slender, brownish fuscous, femora pale testaceous basally, unarmed femora slender, not swollen, hind femora thickest; tibia each with a row of evenly spaced long hairs directed anteriorly or inward; posterior tibia curved slightly, lighter at apex; middle tarsus with segment 1 shorter than 2 (8:10), hind tarsus with segments equal (10:10).

Pronotum truncate, not produced posteriorly, (fig. 2), four times as wide as long (36:9), convexly raised transversely, somewhat depressed at the sides of the convex medial portion; metanotum distinctly divided into 2 lobes, anterior lobe slightly longer than posterior lobe on median line (11:9), anterior lobe truncate behind with sides sloping sharply antero-laterally, excavated behind forming depressed glabrous areas on posterior lobe; metanotum visible only at postero-lateral corners.

Abdominal tergites scarcely narrowed posteriorly, last tergite twice as long as preceding segment; connexivum tilted upward, broad; venter flattened, concave medially, last segment almost twice as long as preceding segment (18:10); genital segments large, fuscous, clothed with semi-long hairs, as long as tergite 7 (18:18); first genital segment semi-quadrate, lateral margins slightly rounded, narrowing somewhat caudad, roundly excavated behind; second segment rounded, protruding caudad from first. Paramere as in fig. 1. Length 2.4 mm, width 1.4 mm (across mesonotum).

APTEROUS FEMALE: Broader than male, sub-fusiform; head uniformly dark on vertex, median markings on mesonotum and tergites dark red-brown; grey-blue lateral pruinose areas on tergites 2 and 3 broad; glabrous median areas on tergites 6, 7 and 8 dark yellow brown.

Connexivum broader than in male, almost vertical; venter somewhat flattened medially, but convex throughout; entire body devoid of semilong hairs (except

head); long hairs on tibia much shorter than in male. Other characteristics as in male. Length 2.3 mm., width 1.8 mm. (across connexivum, tergite 4).

MACROPTEROUS FORM: Pronotum blackish-fuscous with a transverse flavous band behind head, moderately convex across humeri, wider across humeri than long (49:38), with dark median line, humeri raised. Hemelytra rather dark grey brown fumose, veins darker, with an elongated white area along posterior margin of pronotum, slender grey white to white area arising at base and extending caudad one-third of wing length, elongate grey white to white spot at apex; sometimes with semi-light areas between wing veins medially.

Venter darker than in apterous forms, sometimes uniformly blue-grey in females. Other characters as in apterous forms.

MATERIAL: Holotype apterous ♂, Allotype apterous ♀, Morphotype macropterous ♀, (all in the California Academy of Sciences) and paratypes 5 ♂♂ apterous, 7 ♀♀ apterous, 5 ♀♀ macropterous, Galápagos, Academy Bay, Santa Cruz Is., I-22-1964, P. D. Ashlock Collector. Also, additional paratypes as follows: 5 ♀♀ apterous, 1 ♂ macropterous, 5 ♀♀ macropterous, Galápagos, Academy Bay, Santa Cruz Is., I-22-1964, P. D. Ashlock Collector; 3 ♂♂ apterous, 4 ♀♀ apterous, Galápagos, Darwin Sta., Academy Bay, Santa Cruz Is., January 25, 1964, R. L. Usinger; 5 ♂♂ apterous, 18 ♀♀ apterous, 4 ♀♀ macropterous Galápagos Arch., Santa Cruz Is., Academy Bay, Darwin Research Station, 28-I-1964, R. O. Schuster; 11 ♂♂ apterous, 14 ♀♀ apterous, 1 ♀ macropterous Galápagos Arch., Santa Cruz Is., Academy Bay, Darwin Research Station, 25-I-1964, D. Q. Cavagnaro and R. O. Schuster; 1 ♀ apterous, Galápagos Arch., Isla Darwin, 29-I-1964, D. Q. Cavagnaro.

VARIABILITY: The types are among the lighter colored specimens of the series. In the darkest males, the orange yellow transverse band on the pronotum, a slight medial lightening on the mesonotum and deep orange brown glabrous areas on tergites 5, 6, and 7 are the only body markings. In the darkest females only the orange band on the pronotum and faintly lighter areas on tergites 6, 7, and 8 remain, and the glabrous areas are not so shining as in the lighter specimens.

The variations in body measurements are as follows: ♂♂; length, 2.95 mm, max., 1.85 mm, min; width, 0.95 mm, max., 0.60 mm, min; ♀♀; length, 2.50 mm, max., 1.90 mm, min; width, 1.00 mm, max., 0.85 mm, min.

COMPARATIVE NOTES: This species closely resembles *Microvelia pulchella* Westwood both in size and shape, and the pronotum and mesonotum have the same form (fig. 2). (For a splendid figure of *Microvelia pulchella*, see Cobben, 1960). *Microvelia ashlocki* differs from *Microvelia pulchella* in that it has longer antennae, glabrous areas on several of the posterior abdominal tergites and a different general coloration.

As *Microvelia ashlocki*, n. sp., seems most closely allied to *Microvelia*

pulchella, a neotropical species, it is presumed to have been derived from tropical America.

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PLANT MATERIALS AS BREEDING PLACES OF PANAMA *CULICOIDES*
(DIPTERA: CERATOPOGONIDAE)¹

Earlier records summarized by Wirth and Blanton (1959, Proc. U.S. Nat. Mus. 109:237-482) and more recent investigations by Williams (1964, Ann. Ent. Soc. Amer. 57:462-466) have indicated that plant materials are an important larval habitat for *Culicoides* in the tropics, much more so than in the more temperate areas of the world. During a month's stay in the Panama Canal Zone in July, 1967, we were able to devote a small portion of our time to a search for *Culicoides* breeding places in plant materials. Materials suspected of affording suitable larval habitats were collected in the field and brought into our quarters in plastic bags or glass containers for observation. All predatory arthropods and adult insects which were observed were removed daily and preserved in alcohol for determination. If adult ceratopogonids were observed, a portion of the sample was carefully examined under the dissecting microscope to find the larvae, if possible, and to note their activities. Although our very limited time and facilities seriously restricted our choice of plant materials, we were successful in finding two habitats which nearly always contained *Culicoides* larvae.

1. The rotting spadices of the Panama hat palm or "Jipajapa," *Carludovica palmata* Ruiz and Pavón, yielded 9 records of *Culicoides hylas* Macfie, 4 of *fluvialis* Macfie, 1 of *diabolicus* Hoffman, and 1 of *pusilloides* Wirth and Blanton. Collections were usually negative when they were severely infested with ants, or if healthy seeds had developed in the fruits.

2. Older decaying inflorescences of the "beefsteak heliconia," *Heliconia mariae* Hooker f., yielded *Culicoides castillae* Fox 6 times, this host being negative only when infested severely by ants.

Numerous collections were made from the upright bracts of other *Heliconia* species which hold quantities of water and often breed mosquitoes. These were usually negative for *Culicoides*, but we obtained 2 records of *Culicoides heliconiae* Fox and Hoffman from bracts of *Heliconia latispatha* Benthham in which the flowers were old and decomposing.—MABEL O. WIRTH, WILLIS W. WIRTH, and FRANKLIN S. BLANTON. First and third authors: *Department of Entomology, University of Florida, Gainesville*. Second author: *Systematic Entomology Laboratory, Entomology Research Division, ARS, USDA, c/o U.S. National Museum, Washington, D.C. 20560*

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